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(54) Title: ACYLOXYALKYL CARBAMATE PRODRUGS OF SULFINIC ACIDS, METHODS OF SYNTHESIS, AND USE

(57) Abstract: Acyloxyalkyl carbamate prodrugs of 3-aminopropylsulfonic acid and analogs thereof, pharmaceutical compositions of 3-aminopropylsulfonic acid and analogs thereof, methods of making prodrugs of 3-aminopropylsulfonic acid and analogs thereof, methods of using prodrugs of 3-aminopropylsulfonic acid and analogs thereof, and pharmaceutical compositions thereof for treating or preventing diseases or disorders such as spasticity or gastroesophageal reflux disease are disclosed. Acyloxyalkyl carbamate prodrugs of 3-aminopropylsulfonic acid and analogs thereof and sustained release oral dosage forms thereof, which are suitable for oral administration, are also disclosed.



WO 2006/050471 A3

A. CLASSIFICATION OF SUBJECT MATTER
 INV. C07C313/04 A61K31/185

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 C07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
 EPO-Internal, WPI Data, CHEM ABS Data, BEILSTEIN Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 02/100823 A (ASTRAZENECA AB; FITZPATRICK, KEVIN; GEISS, WILLIAM; LEHMANN, ANDERS; S) 19 December 2002 (2002-12-19) cited in the application claims 1-18; page 25, lines 5-12 -----	1-22
Y	US 6 117 908 A (ANDREWS ET AL) 12 September 2000 (2000-09-12) claim 4 -----	1-22
Y	WO 02/100347 A (XENOPORT, INC) 19 December 2002 (2002-12-19) claim 29; page 4, line 23-page 5, line 7; page 66, scheme 5; examples ----- -/--	1-22

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

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- *E* earlier document but published on or after the international filing date
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- *&* document member of the same patent family

Date of the actual completion of the international search

9 May 2006

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17/05/2006

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003/162754 A1 (LIGON BROOKE) 28 August 2003 (2003-08-28) claims 1-3 -----	1-22
A	WO 2004/000855 A (ASTRAZENECA AB; LEHMANN, ANDERS; WRANGSTADH, MICHAEL) 31 December 2003 (2003-12-31) claim 22 -----	15, 19
A	WO 2004/000856 A (ASTRAZENECA AB; LEHMANN, ANDERS; WRANGSTADH, MICHAEL) 31 December 2003 (2003-12-31) claim 15 -----	15, 19

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2005/039871

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 14-17 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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